

AMENDMENTS TO THE SPECIFICATION

Please replace Paragraph [0014] with the following paragraph rewritten in amendment format:

[0014] Figure 3A is a perspective view of a composite part being modeled in accordance with the method of Figure 2.

Please add the following paragraphs.

[0014.1] Figure 3B is a perspective view of a second step in modeling the composite part of Figure 3A;

[0014.2] Figure 3C is a perspective view of a third step in modeling the composite part of Figure 3A;

[0014.3] Figure 3D is a perspective view of a fourth step in modeling the composite part of Figure 3A;

[0014.4] Figure 3E is a perspective view of a fifth step in modeling the composite part of Figure 3A;

[0014.5] Figure 3F is a perspective view of a sixth step in modeling the composite part of Figure 3A;

Please replace Paragraph [0026] with the following paragraph rewritten in amendment format:

[0026] Previously, wire frame CAD Computer Aided Design (CAD) technology allowed modeling of only the edges of the part being modeled. Wire frame models offered no tools for designing, visualizing or otherwise developing, the surfaces or interior volume of parts. With the advent of surface modeling CAD applications, tools became available to create designs that are more explicit.

Please replace Paragraph [0027] with the following paragraph rewritten in amendment format:

[0027] Furthermore, with explicit representations, design reviewers who are neither CAD proficient nor technical may fully participate in reviewing the design. Previously, their inability to visualize the part from the limited two-dimensional drawings available prevented them from forming their opinions regarding the design. Thus, three-dimensional surface and solid modeling generally improves the quality of a design and correspondingly reduces development costs. Three-dimensional CAD geometry, including surfaces, shells or shell solids, can be termed as CAD native geometric shapes.

Please replace Paragraph [0036] with the following paragraph rewritten in amendment format:

[0036] Turning now to Figures 2 and 3, 3A, 3B, 3C, 3D, 3E and 3F, a flowchart depicting a design method 41 for composite parts, in accordance with a preferred embodiment of the present invention, is illustrated along with a generic composite part being modeled. Within an available CAD application the designer models the overall part surface 68 for the composite part as in operation 42 (illustrated in Figure 3A). Then the designer extracts a tool surface 69 in operation 44 as shown in Figure 3B. Next, as desired, the designer adds excess to the tool surface (not shown) to the model 66 as illustrated in Figure 3C. See operation 46. The excess surface is desirable to ensure that the laminate ply (to be subsequently modeled) has excess material for manufacturing convenience. A stacking order for the plies in the composite

part is assumed to be available in operation 47; this stack lists the number, material, and orientation of each ply.

Please replace Paragraph [0037] with the following paragraph rewritten in amendment format:

[0037] Using the tool surface 69 as a starting point, the designer then represents the tool side laminate as a surface trimmed from the tool surface 69 as shown in operations 50 and 52. If necessary, changes (such as adding a cut out 72) may be made to the trimmed surface 70 to represent the first tool side ply as shown in Figure 3D. The first toolside ply can describe the laminate ply 70 adjacent to the tool surface 69. Typically, though, the shape of the first bag side ply surface will closely resemble the shape of the tool surface 69 because the tool typically defines the first ply. The term “first bagside ply” generally denotes the laminate layer 74 which is furthest away from the overall part surface 68. However, subsequent ply surfaces 74 will typically change incrementally as more features 76 are modeled ply layer-by-ply layer as illustrated in Figures 3E and 3F. Properties may also be associated with the surface to, for example, represent the material or orientation selected for the current ply. Colors, names, and other visualization and interrogation aids may also be added. See operation 54. The designer repeats the operations from operation 50 to 54 for each subsequent bag side ply in operation 56.

Please replace Paragraph [0050] with the following paragraph rewritten in amendment format:

[0050] Referring back to Figure 5 for a moment, note that tool 120 and bag 124 side sequence collectors are shown in the tree structure 88 as being separated by

the core sequence collector 122. Within the core sequence collector [[124]]122, the sequence used to create the solid core model may be found. It is the solid core model from which the surface used to represent the first bag side ply is extracted.